

# DOCUMENTED BRIEFING

**RAND**

## *Military Compensation*

### *Trends and Policy Options*

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## PREFACE

Today's military forces are being called upon to engage in a wide variety of small-scale contingencies yet remain in readiness for major theater wars. In addition, the military forces have embarked on a far-reaching program of modernization that will introduce new weapons systems over the next decade and beyond. The diversity of today's military operations, the threat of major theater war, and the program of modernization all draw attention to the crucial role of defense personnel and, supporting them, well-functioning personnel and compensation systems. These systems should be capable of efficiently recruiting, training, keeping, and motivating the number, quality, and mix of personnel needed to meet manning requirements. Recently, however, concern has arisen regarding military compensation and retention, prompting proposals to increase military compensation and in some cases modify its structure. In this documented briefing, we review the current pay and retention situation and then provide an analysis of certain military compensation policy options.

This research was conducted for Personnel and Readiness within the Forces and Resources Center of RAND's National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the unified commands, and the defense agencies.

## ACKNOWLEDGMENTS

This documented briefing owes its immediate origins to a request from the Hon. Rudy de Leon, Under Secretary of Defense, Personnel and Readiness (P&R), for an assessment of military compensation and possible policy options for increasing that compensation. We are grateful to Mr. de Leon for the opportunity to undertake such an assessment, and we especially appreciate his comments and suggestions in guiding this research, as well as those of his colleagues Frank Rush, Principal Deputy Assistant Secretary of Defense, Force Management Policy (P&R); Jeanne Fites, Deputy Under Secretary of Defense, Program Integration (P&R); and Captain Elliot Bloxom, Director, Office of Compensation, Force Management Policy (P&R). While this research was conducted in a short time-frame, it could not have been done without drawing on the product of years of previous research, all of which has been supported by Personnel and Readiness and its predecessor organizations, and much of which has come through the Office of Compensation. Within that office, we have regularly benefited from the comments of Deputy Director Carl Witschonke and Saul Pleeter.

At RAND, Jennifer Burke helped to prepare the update of the Defense Employment Cost Index, and we have drawn upon past and current work undertaken with or by Richard Buddin, Michael Mattock, Bruce Orvis, Mark Totten, Michael Ward, and John Warner of Clemson University. We sincerely appreciate the opportunity to interact with such superb researchers. We also would like to thank John Warner for providing feedback and comments on an earlier version of this document. Finally, we wish to thank Susan Hosek, Director of RAND's National Defense Research Institute's Forces and Resources Center, for her suggestions and oversight throughout this endeavor.



## ***Signs of Duress In Accession, Retention***

- **Services report difficulty in recruiting**
- **Navy, Marine Corps, Air Force**
  - **First-term retention has declined**
  - **Second-term retention steady through 1997 but may have worsened since**
- **Army**
  - **Steady first-term retention but high attrition**
  - **Steady second-term retention but lower than FY 90, 91 levels**
- **Pockets of shortage exist**

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Every service is having difficulty in recruiting. In FY98, the Navy did not make its recruiting target. The importance of recruiting cannot be overestimated. The services need recruits to maintain force readiness, and the quality of recruits matters. Yet history has shown that the recruit quality the services bring in is the quality they keep. Thus, a decline in recruit quality will be felt throughout the service life of a recruit cohort. Fortunately, the quality levels in FY98 remained close to the high levels achieved before the drawdown in FY89.

The retention picture is mixed. Judging by continuation rates, first-term retention has declined in the Navy, Marine Corps, and Air Force, but second-term retention has remained steady. In the Army, both first- and second-term retention have held fairly steady, although Army attrition is up and second term retention has never returned to its levels of FY90 and FY91 or even FY87. (We append continuation charts for years of service (YOS) 4 and YOS 8 for FY93-97 along with personnel force structure charts.) Ideally, we should compare these retention rates with target rates that reflect current manpower requirements, but target rates are not available. Hence, current retention rates, whether stable, declining, or even rising, do not give a precise indication of retention shortfall (or excess) relative to target.

In addition, pockets of shortage exist. A well-known example is Air Force and Navy pilots, who are leaving for jobs with the regional and major airlines.

## ***Several Probable Causes of Duress***

- **Military pay gap**
- **Retirement system**
- **Heightened pace of duty since Cold War**
- **Possibly also: health care and housing**

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Concerns about military personnel reflect a mix of issues. The military pay gap has been estimated in excess of 13 percent, creating distress among personnel that their pay has fallen well below comparable positions in the civilian economy. The bite of REDUX, a reduction in the level of military retirement benefits payable upon 20 years of service that was implemented in FY86, is now being felt by personnel in the 10-12 year of service (YOS) range. Their near neighbors, personnel entering just before REDUX went into effect, proceed under the previous, more generous retirement system, which creates a sense of inequity. The military retirement system continues to vest at YOS 20, whereas private sector retirement plans, under the mandate of ERISA, generally vest fully within 5 to 7 years. Deployments in the 1990s have brought a more intense pace of military activity, both for deploying personnel and those remaining on base. Many service members have families and working spouses, so the pace of activity and deployments places new strains on military families. Finally, personnel have concerns about the cost, availability, and quality of housing on- or off-base, and about the provision of health care to military dependents, especially with regard to the convenience of obtaining health care and access to health care specialists who may not be available locally. The charts that follow speak to pay, retention, and perstempo, but not housing and health care.

## ***Steps Toward Solving These Problems***

- **Reduce the pay gap**
  - **Increase basic pay**
  - **Increase bonuses and educational benefits**
- **Improve retirement options**
  - **Increase benefits for REDUX group**
  - **Offer Thrift Savings Plan**
- **Improve management of perstempo**
- **Increase recruiting resources**
- **Continue to strengthen, reform QOL programs**

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The military services and the Office of the Secretary of Defense have considered a number of steps toward solving the current manning problems. The steps include actions to reduce the military pay gap by increasing basic pay and adding funds to bonus and educational benefit programs as well as increasing the generosity of their awards. A great deal of attention is also being paid to the area of retirement benefits, where the options include some form of increased retirement benefit for personnel under the REDUX retirement system, and offering a thrift savings plan. With the heightened pace of operations in the post-Cold War era, the services are in the process of learning how to better manage personnel deployments. This has been more of a challenge for the Army and the Air Force than the Navy and the Marine Corps, but peacetime deployments to hostile areas have risen for all services. Recruiting problems call for focused solutions, and although recruiting resources were increased last fiscal year, further difficulties may call forth additional requests for resources. Finally, the services remain concerned with improving the quality of life (QOL) of military personnel in areas such as health care, housing, family support, schools, and recreation. In the following, we focus on a portion of this wide array of possible actions. We are primarily concerned with military compensation, retention, and the cost-effectiveness of alternative compensation proposals.

## ***Outline***

### **Assessment of current situation**

- **Extent of pay gap**
- **Factors affecting retention**
  - **Military/civilian pay**
  - **Unemployment**
  - **Perstempo**

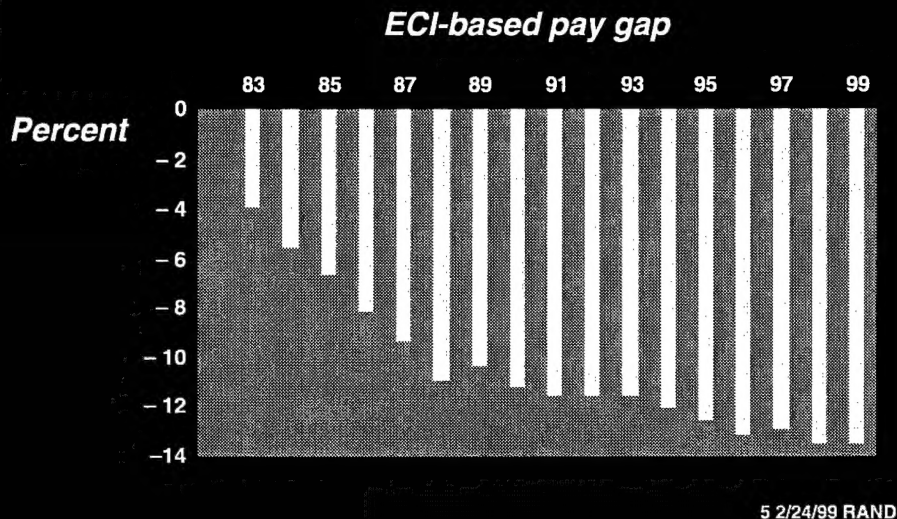
### **Discussion of policy options**

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We discuss the military pay gap, critiquing the conventional measure of the pay gap and offering new estimates. Rather than presenting a single overall estimate of the pay gap, we present estimates for particular groups in the military—officers, junior enlisted, and senior enlisted. We also discuss other factors affecting retention, namely, the civilian unemployment rate and the extent of long or hostile duty.

We then discuss military compensation proposals that include increasing basic pay, targeting a portion of the increase on mid-career personnel, increasing retirement benefits for the REDUX generation, and offering a thrift savings plan. In addition to evaluating these proposals, we also present our recent evaluation of the DoD December 1998 compensation proposal.

## *Since 1982, ECI Shows That Military Pay Has Grown Slower Than Civilian Pay*



The military pay gap is estimated at 13.5 percent. To many, the term “pay gap” conjures up the notion that military pay is 13.5 percent less than civilian pay in an absolute sense. However, that is not what the pay gap means. The gap indicates the percentage difference in the *increase* of civilian pay since FY82 relative to the increase in basic pay since that date. There is no claim that basic pay and civilian pay were equal in 1982; still, the large increases in basic pay in FY81 and FY82, totaling around 25 percent, were implemented to overcome serious recruiting and retention problems at that time and were meant to restore military pay to its level relative to civilian pay at the outset of the volunteer force in 1973. The increase in civilian pay is measured by the Employment Cost Index (ECI) for private sector wage and salary workers. The increase in military pay is measured by an index of basic pay. Since FY82 all basic pay increases have been across the board; thus, annual percentage increases in basic pay have been the same regardless of rank or years of service.

DoD tracks the pay gap using an established convention—with a lagged ECI. If a concurrent ECI were used, the pay gap would be cut nearly in half. This large change results because there were extremely high rates of wage inflation at the beginning of the 1980s, rates which quickly tapered down after 1982. Lagging picks up the high early rates, but the big pay increases in FY81 and 82 were meant to offset these high rates. As a result, it is doubtful that a pay gap based on a lagged ECI is appropriate. Nevertheless, a pay gap of around 7 percent rather than 13.5 percent deserves serious attention.

Because the “pay gap” is not an official DoD series, we refer to the above chart as the “official” pay gap, with “official” in quotation marks.

### ***Problems With ECI Comparisons***

- **ECI population is not representative of military in key dimensions: age, education, occupation**
- **Civilian wages are known to change differently for different age, education, occupation groups**
- **Therefore, to gauge civilian wage change relevant to the military, the index population should represent the military population**
- **ECI is a single index and cannot be tailored to groups of interest to the military, e.g., officers, enlisted**

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The ECI is a superb index for measuring the wage growth of the civilian labor force at large. However, it can be a misleading measure of civilian wage growth for the purpose of determining the military pay gap. The reasons are outlined in the chart: military personnel differ from the civilian workforce, and these differences are important because civilian wages grow at different rates for different groups. Research has shown that wages are related to age, education, occupation, gender, and race/ethnicity. Therefore, we constructed a new wage index, the Defense Employment Cost Index, whose weights reflect the composition of active duty personnel by age, education, occupation, gender, and race/ethnicity (Hosek et al., 1992).

The DECI offers flexibility unavailable in the ECI. With the DECI, we can estimate the military pay gap for particular groups in the military. This flexibility allows us to determine whether the gap for a group is larger or smaller than an overall estimate, and therefore whether to expect more or less stress on retention.

## ***DECI More Accurately Reflects Civilian Wage Growth Relevant to Military***

- **Overcomes ECI limitations**
  - Does represent military population
  - Can be tailored to groups within the military
- **Adjusts for age, education, occupation, gender, and race/ethnicity**
- **Tracks recruiting, retention; ECI doesn't**
- **DECI based only on age, education, and occupation gives similar results to full DECI**

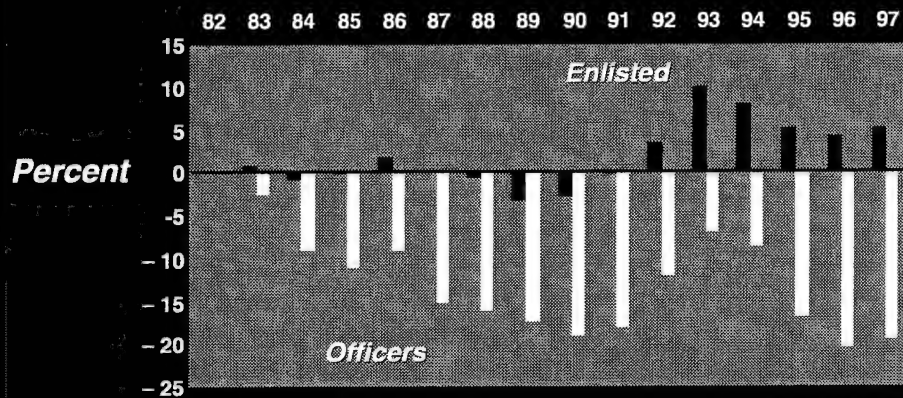
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As mentioned, the DECI overcomes many of the ECI's limitations. The DECI allows us to compare "apples to apples," not "apples to oranges." In previous work, we showed the value of being able to zero in on the civilian wage opportunities as relevant to particular groups in the military. We found that the DECI-based military-civilian pay indexes tracked recruiting quality and first- and second-term retention rates, whereas ECI-based pay indexes did not. The DECI has been criticized by some because its weights, reflecting the active duty population, give more emphasis to minority wage growth than would be the case if the military had exactly the same race/ethnic composition as the civilian labor force. However, in earlier work we also looked at DECI's that were based only on age, education, and occupation. The results were the same; they tracked recruiting and retention, and they outperformed the ECI in doing so.

In the following charts, we use the DECI method to estimate pay gaps for officers versus enlisted personnel, and for junior versus senior enlisted personnel.

## Officers Have a Pay Gap, Enlisted Personnel Do Not

DECI-based gaps for officers and enlisted



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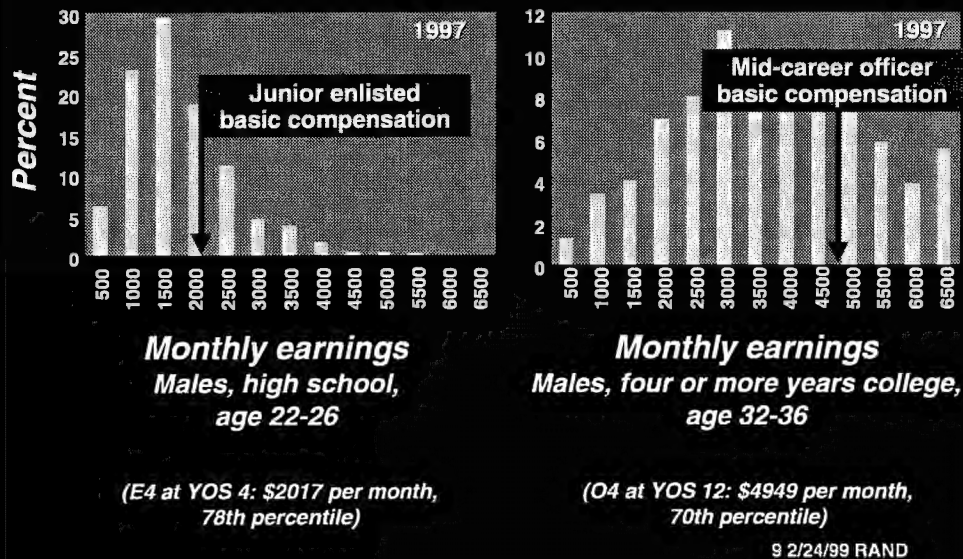
We find a substantial difference between officers and enlisted personnel overall: no gap for enlisted personnel but a negative gap for officers. Most enlisted personnel have a high school education, and the civilian wages of high school-educated young workers did not grow much in the early 1990s, a time of recession. By comparison, officers have a negative pay gap of nearly 20 percent. Their gap reflects the rapid civilian wage growth of college-educated workers. Although the early 1990s recession ate into their wage gains, the robust recovery over the past six years has restored them.

The contrast between the enlisted and officer gaps reflects the different trends in the factors that determine the pay gap for each group. For instance, the positive gap for enlisted personnel in 1993-1997 means that since 1982 basic pay has grown 5 to 10 percent faster than civilian wages for workers with age, education, and occupations (and race/ethnicity and gender) similar to those of enlisted personnel. The gap computation does not assume that in 1982 enlisted pay *equaled* that of civilian counterparts. Similarly, for officers it might have been the case that military pay exceeded civilian pay in 1982, and that the military edge has dwindled.

Incidentally, because there is no civilian counterpart to combat arms occupations, the DECI assigns combat arms personnel the average wage across all civilian occupations, given age, education, race/ethnicity, and gender of the personnel.



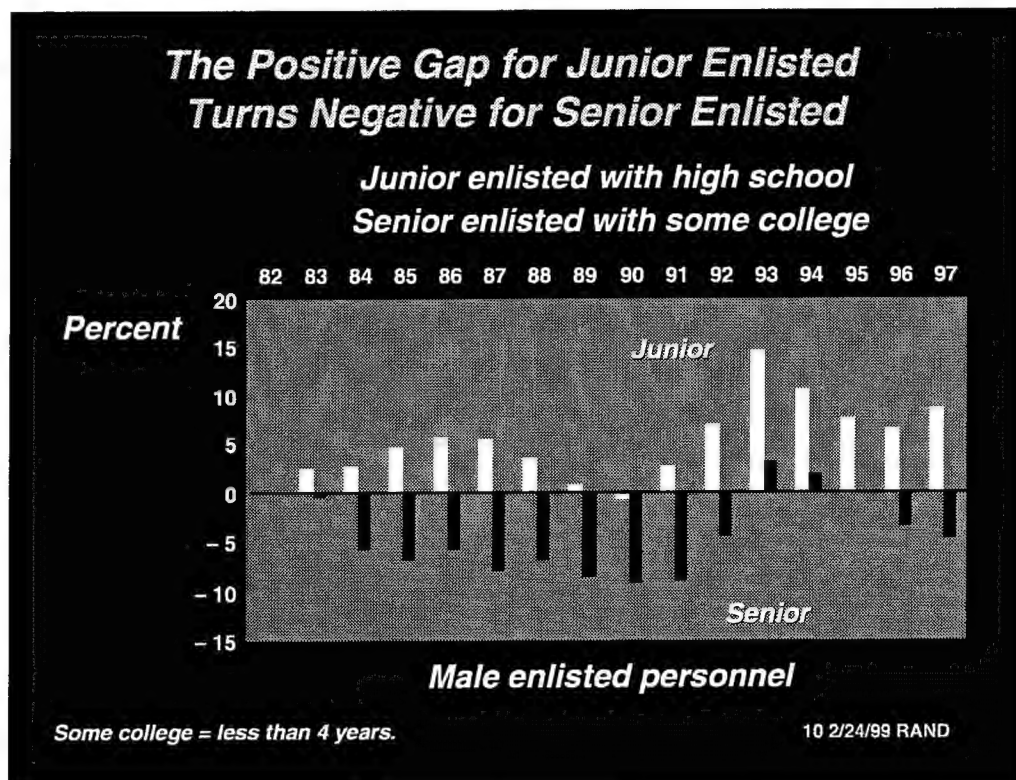
## **Basic Military Compensation Lies in 70th–80th Percentile of Civilian Pay**



The possible ambiguity in interpreting pay gaps has led us to make additional pay comparisons on an absolute basis. The chart presents such comparisons for two groups, junior enlisted personnel and mid-career officers. The junior enlisted personnel are E4's at YOS 4, and the officers are O4's at YOS 12. In 1997 the Basic Military Compensation of an E4 at YOS 4 amounted to \$2,017 per month. This placed the E4 at the 78th percentile of the civilian wage distribution for males, age 22-26, with a high school education. The O4 at YOS 12 had BMC of \$4,949 per month, which corresponded to the 70th percentile of the civilian wage distribution for males, age 32-36, with 4 or more years of college. We have done a variety of such comparisons for officer and enlisted personnel of various ranks and years of service, and the results typically place military personnel in the 70-80th percentiles.

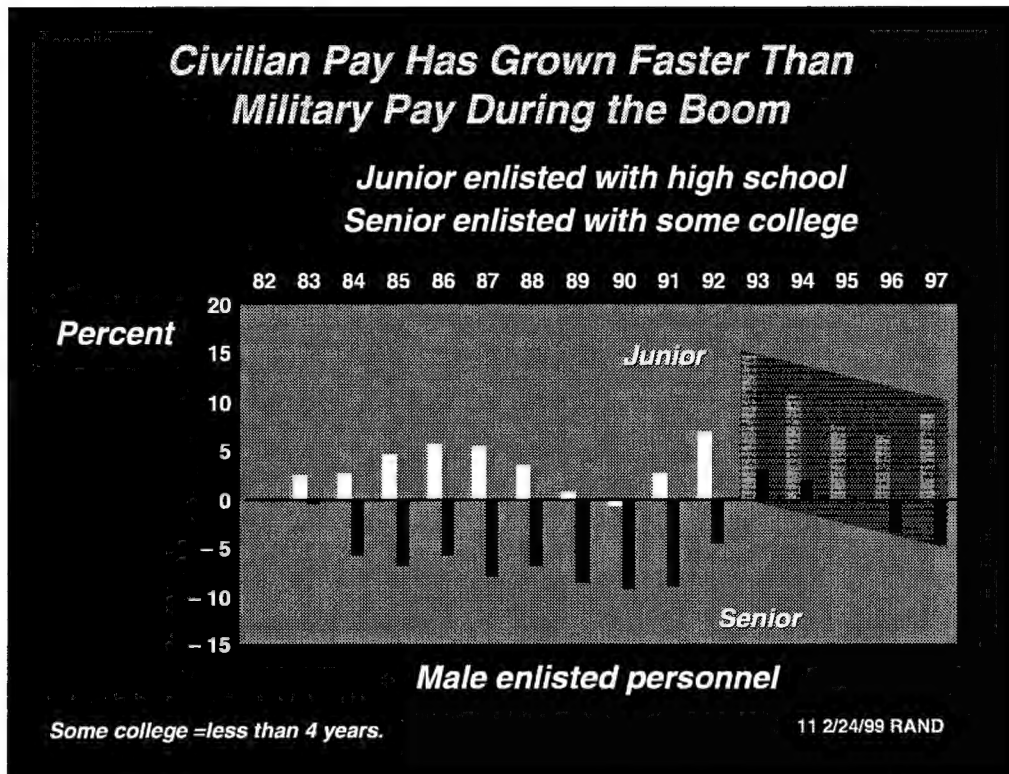
We see that military pay is above average, but this apparent good news needs careful interpretation. The military wants to recruit and keep high-quality, well-trained personnel, yet military careers involve unusual rigors and at times extremely high risks. What the absolute pay comparisons indicate, then, is that to obtain the quantity and quality of personnel needed to meet the challenges of military duty, the services must pay well above average. How much above? The answer does not depend on index-based pay gaps or even on absolute pay comparisons, but on whether manning and readiness goals are being met, and whether personnel are well motivated to exert their best effort.

In past work, we have found that BMC as a percentile of civilian wages moves from year to year, and the movement is similar to the movement in the DECI-based pay gap. Because the pay gap has worsened during today's boom, BMC as a percentile of civilian wage has probably also fallen.



One mark of the modern military is the demand for well-educated personnel. As with civilian workers, the desired level of education of military personnel is apt to rise. Moreover, many military personnel enter military service with aspirations of getting further education. The services, in turn, provide extensive formal training, and many officer and enlisted personnel receive further formal education. For officers, obtaining a masters degree is not unusual. For enlisted personnel, obtaining some college also appears to be fairly common, as we discuss on the next chart.

Above, we have plotted the DECI pay gap for high-school educated junior enlisted personnel (5 or fewer years of service) alongside the gap for senior enlisted personnel with some college. The level of education is based on that reported in the military personnel records maintained by the Defense Manpower Data Center. The pay gap for junior personnel is positive, lying in the +10 percent range in the mid 1990s, but the pay gap for senior personnel with some college is negative. This suggests that for junior personnel with intentions of getting further education, as required for their career advancement, whatever pay advantage they enjoy would dissipate if they remained in service after obtaining the education. This is troubling because it suggests a weakened incentive to remain in service after acquiring further education, compared to the incentive as of 1982.



This is the same chart but with a different message: over the past six years as the national economy has boomed, the pay gap has worsened for junior and senior enlisted personnel by about 6.5 percent. The pay gap for officers, shown earlier, has worsened by over 10 percent. These are clearly adverse developments for military retention and recruiting.

As a side point, over this same period, the ECI pay gap worsened by only 1.5 percent.

## ***Recap of Findings from DECI Pay Comparisons***

- **Since 1982, basic pay rose**
  - **Faster than civilian pay of junior enlisted**
  - **Slower than civilian pay of NCOs**
  - **Much slower than civilian pay of officers**
- **In the current boom, the pay gap has worsened**
  - **About 6 percentage points for enlisted**
  - **Over 10 percentage points for officers**
- **Gap between junior enlisted and senior, more-educated NCOs appears to be significant**

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Summarizing the chief points of our pay comparisons, we find that since 1982 basic pay has not kept pace with civilian wage growth for senior enlisted personnel and officers. Basic pay has kept pace with civilian wage growth as relevant to junior enlisted personnel. In the current boom, however, each of these groups has seen a decline in the military/civilian pay, i.e., their pay gap has worsened. Finally, a gap has opened between junior enlisted and senior, more-educated NCOs. This means that the basic pay table has flattened in effect. There is less incentive and reward for junior enlisted personnel to make the investment and sacrifice necessary to become a senior leader in the enlisted force.

## ***Many Other Factors Can Affect Recruiting and Retention***

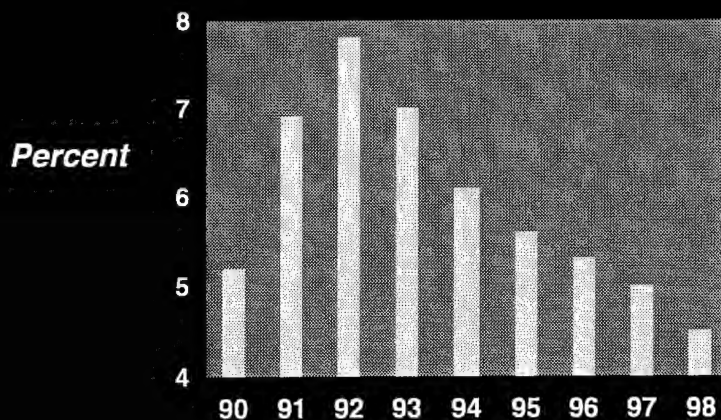
- **Employment opportunities**
- **Stepped-up pace of peacetime operations**
- **Slowed or uncertain promotions**
- **Eroded benefits: educational, retirement**

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Discussions of military pay should, we believe, extend beyond comparisons of civilian and military pay. Although military pay should be kept “comparable” or “competitive” with civilian pay, that is not an end in itself, but a means to ensuring that military compensation is sufficient to meet the manning requirements of our national defense strategy. It is therefore also important to consider other factors that may be affecting manning outcomes. Among such factors are employment opportunities, peacetime operations, promotions, benefits, and quality of life. Below, we consider the first two of these.

## Civilian Job Opportunities Are Excellent

Unemployment rate



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The economic expansion has continued for over six years. It has created a vast number of new jobs and driven the unemployment rate down from over 7.5 percent in 1992 to around 4.5 percent today. This is the lowest unemployment rate in a quarter century. Even without wage growth, the growth in civilian job opportunities can be a powerful lure for personnel to leave the military.

Low unemployment increases the odds of finding a job. As a result, a lower unemployment rate increases *expected* earnings in the civilian labor market. Earlier we saw the DECI-based pay gap for junior enlisted personnel was positive, not negative, yet the services are having increasing difficulty in recruiting. If we accept the DECI finding that military pay growth of junior personnel has not lagged civilian pay growth, there is all the more reason to believe that the low unemployment rate has been a factor that has hurt recruiting.

Unemployment has a large cyclical component; today's low unemployment rate will not continue indefinitely, even though it is real and, for the military, painful today. This suggests the value of programs such as enlistment bonuses and educational benefit supplements (e.g., the Army College Fund) as tools for improving recruiting, because bonuses and benefits can be turned on and off as needed. Large entry-level pay increases, in contrast, are not so flexible.

Unemployment has probably also affected reenlistment, as the next chart discusses.

## How Do Pay and Unemployment Add Up to Affect First-Term Retention? An Example

	<u>Pct change 1993-1997</u>	<u>x</u>	<u>Effect on retention*</u>	<u>=</u>	<u>Pct change in retention</u>
<b>Military/civilian pay</b>	-6.5		1 to 1.5		-6.5 to -9.7
<b>Unemployment rate</b>	-29		~.15		-4.3
					<hr/>
					-11 to -14

\* Buddin et al. (1992)

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This chart provides an example calculation that accounts for the effect of changes in military/civilian pay and the unemployment rate on first-term retention. The changes are from FY93 to FY97.

Using the DECI, we estimate that military/civilian pay fell by 6.5 percent from FY93 to FY97 for junior enlisted personnel. Buddin et al. (1992) estimate that for each one percent increase in military/civilian pay, first-term retention increases by one to one-and-a-half percent. Therefore, the 6.5 percent fall in relative pay would lead to a 6.5 to 9.7 percent decrease in first-term retention. Similarly, we estimate that the unemployment rate fell by 29 percent, and Buddin estimates that each one percent increase in the unemployment rate increases first-term retention by about .15 percent. This leads to a 4.3 percent decrease in first-term retention. Together, the military/civilian pay decrease and the unemployment decrease have a net predicted effect on first-term retention of -11 to -14 percent.

Other factors may be affecting retention (in a moment we discuss perstempo), but the above calculation is a thought-experiment that holds other things constant.

## ***Perstempo: We Studied The Effect of Long or Hostile Duty on Retention***

- **Study parameters**
  - Long: 30+ consecutive days of separation
  - Hostile: duty in an area deemed hostile or in an activity involving imminent danger
  - 24-month window in 1993-1995
- **Other aspects of perstempo also deserve study, e.g.**
  - Short, nonhostile TDY
  - Long hours, intense work effort
  - Undermanned units
  - Family support

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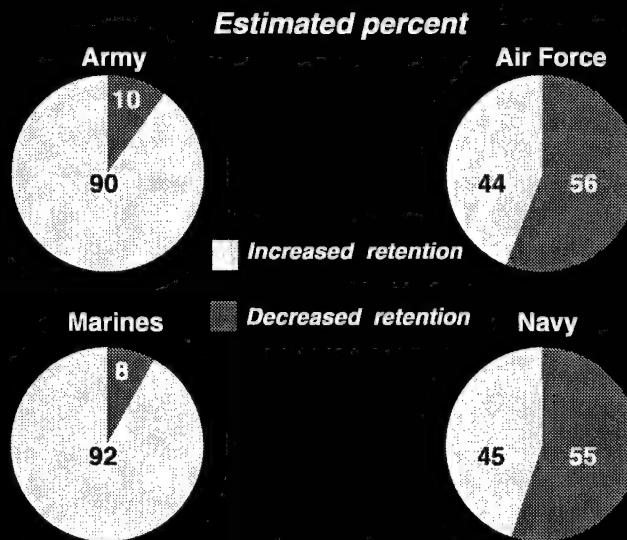
Peacetime operations have become a prominent feature of U.S. military activities in the post-Cold War world. The most common of these activities are humanitarian assistance, disaster relief, and peace keeping, but there are also other activities such as nation building (e.g., constructing new roads or bridges) and interactions to strengthen host nation support. Peace operations have heightened the pace of military activity. Military units must not only maintain their preparedness for a major theater war (MTW), but must also participate in the peace operations. Because peace operations can disrupt MTW training cycles, maintaining MTW readiness becomes more difficult, especially where combined unit training is involved.

The increase in peace operations has meant an increase in the percentage of personnel who are away from home base on long duty (30 consecutive days or more) or engaged in hostile duty. We found that one-third to two-thirds of active duty personnel had some long or hostile duty in a 24-month window in 1993-1995, and the numbers might be even higher today. Many believed that this duty would cut into retention rates. Our analysis of the effect of long or hostile duty on retention is discussed in the next charts. (Further details about the analysis are contained in Hosek and Totten, 1998.)

Long or hostile duty are two aspects of peacetime operations, but there are others not yet studied. For instance, short, nonhostile duty has probably increased. Many nondeployed personnel are probably putting in longer hours and working more intensively. Moreover, peacetime deployments can leave the nondeployed units undermanned and underequipped, adding to the pressure on them. Some services, e.g., the Army, have had to expand their support programs for families with deployed service members.



## Long or Hostile Duty Increased Retention for Most Army and Marine Corps First-Termers



*\*Compared to having no long or hostile duty*

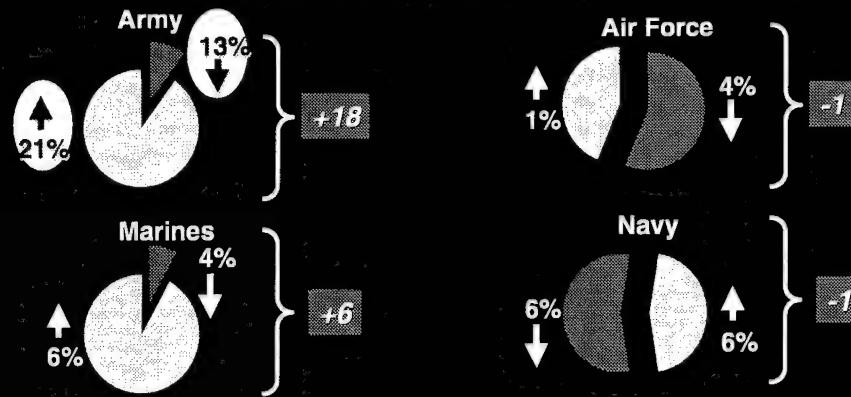
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For the Army and Marine Corps, we found that long or hostile duty during 1993-1995 increased first-term reenlistment retention for over 90 percent of the personnel. The results were different for first-term Air Force and Navy personnel, however, with slightly fewer than half the personnel having an increase in reenlistment.

We also analyzed early career personnel, those beyond the first term but with 10 or fewer years of service. In their case, long or hostile duty increased reenlistment for upwards of 90 percent of the personnel.

## Net Effect Was Positive for Army and USMC, Negligible for Navy and Air Force

### Percent Change in Retention\*



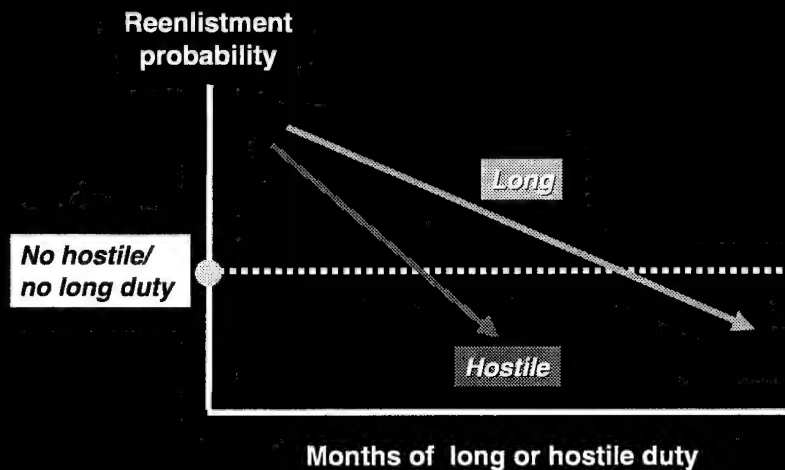
\*Compared to having no long or hostile duty

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We also determined the size of the increase or decrease in reenlistment and the net effect. Army first-term personnel had the largest effects. Reenlistment rose by 21 percent among the 90 percent who were positively affected and fell by 13 percent among those negatively affected. On net, first-term reenlistment rose by 18 percent compared to what it would have been without any long or hostile duty. For the Marine Corps, the net effect was 6 percent, while for Air Force and Navy first-term personnel the net effect was -1 percent, i.e., near zero.

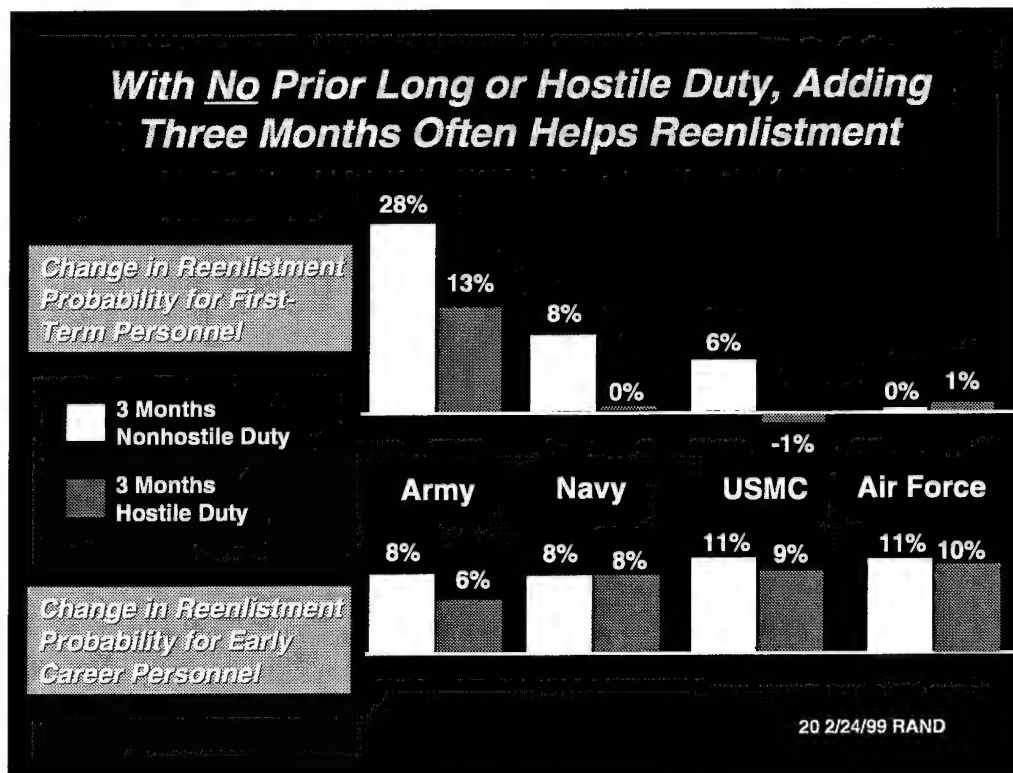
For early career personnel, the net effects were all positive and ranged from 6 in the Army, to 8 percent in the Navy, and 10 percent in the Marine Corps and Air Force. One way of placing these effects in perspective is to compare them to an increase in military pay. Although estimates differ by study, it is not unusual to find estimates in the range of a 1.5 percent increase in reenlistment per 1 percent increase in military pay. Thus, a 6 percent increase in reenlistment from long or hostile duty compares to a 4 percent increase in pay. Of course, not all personnel have long or hostile duty.

## ***Long or Hostile Duty First Increases Reenlistment, Too Much Can Reduce It***



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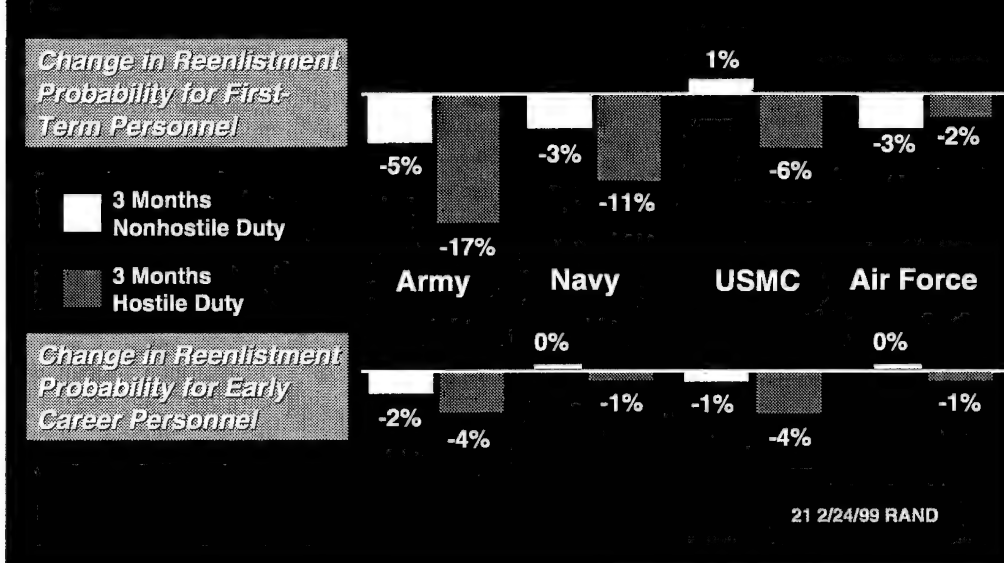
Our findings on the relationship between long or hostile duty and reenlistment can be described by the diagram above. If a service member has no long or hostile duty, his or her reenlistment probability is indicated by the point on the y-axis. Long or hostile duty at first increases reenlistment above that level. An increase in reenlistment accords with the 1993-1995 experience of most first-term Army and Marine Corps personnel and early career personnel from all the services. But as the amount of such duty increases, the reenlistment probability declines. The decline is more rapid for hostile duty than for long, nonhostile duty. At some point, the amount of long or hostile duty becomes great enough to reduce reenlistment below what it would have been if the service member had no long or hostile duty. The decrease in reenlistment accords with the experience of the 8-10 percent of Army and Marine Corps and the 55-56 percent of Navy and Air Force first-term personnel for whom long or hostile duty decreased their reenlistment.



An implication of our analysis is that the effect of long or hostile duty on reenlistment will depend how the burden of such duty is distributed among personnel. In this and the next chart, we predict the effect of adding three months of long or, alternatively, hostile duty to two groups of personnel, those who have had no such duty, and those who have had some. The predictions are meant to display the range of possible effects on reenlistment. Overall, however, we recognize that the assignment of long or hostile duty is constrained by the need to maintain MTW readiness. Some units or personnel may have multiple tours of long or hostile duty in order to maintain the MTW readiness of other units.

Above, we see the result of adding three months of long or hostile duty to personnel who have had none. Reenlistment increases by 6-11 percent among early career personnel, and the increase is only slightly greater if the duty is nonhostile than hostile. For first-term personnel, adding hostile duty results in basically no change in reenlistment for Navy, Marine Corps, and Air Force personnel, although it increases Army reenlistment by 13 percent. The additional nonhostile duty has a larger effect. Army reenlistment rises by 28 percent, Navy by 8 percent, and Marine Corps by 6 percent. There is no change in Air Force reenlistment.

## With Prior Long or Hostile Duty, Three More Months Can Hurt Reenlistment



When three months of long or hostile duty are added to personnel who have already had long or hostile duty (at their 1993-1995 level), reenlistment generally declines. The declines are typically larger for first-term personnel than for early careerists. The largest declines occur when hostile duty is added to first-term personnel; in particular, first-term reenlistment declines by 17 percent in the Army and 11 percent in the Navy. The other declines range from 1 to 6 percent.

These and the previous estimates illustrate that whereas some long or hostile duty can increase reenlistment, too much additional duty can decrease reenlistment. Further, the net effect on reenlistment depends on how the long or hostile duty is apportioned between personnel who have had such duty and personnel who have not. Thus, a higher pace of peacetime operations than that prevailing in the mid-1990s could reduce or increase a service's reenlistment rate, depending on how the duty is spread among service members. We saw that long or hostile duty in 1993-1995 led to a positive impact on reenlistment for early career personnel and for first-term personnel in the Army and Marine Corps. Similarly, more recent levels of long or hostile duty may have had a net positive effect on reenlistment, although we do not have research results on this yet. If the effect has been positive, it apparently has helped to offset the negative effects on reenlistment of the decline in military/civilian pay and the decline in the civilian unemployment rate, described earlier. Finally, even if recent long or hostile duty has had a positive effect, more such duty potentially could have a negative effect.

## **Outline**

### **Assessment of current situation**

#### **Discussion of policy options**

- **Estimates of retention, productivity incentives, and cost effects**
- **Elements of best option**

#### **Discussion of DoD proposal**

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In light of the personnel concerns mentioned earlier, the military began considering in August 1998 several policy options for adjusting the compensation system. The next part of the briefing discusses some of these options and presents estimates of their retention, productivity incentive, and cost effects using models that we have developed over the last several years for OSD (Asch and Warner, 1994a and 1994b; Asch, Johnson, and Warner, 1998). We then discuss the elements of what we believe would be the best option among those considered. This discussion concludes the part of the briefing that corresponds to the analysis we conducted in the Autumn of 1998 for OSD. In December 1998, DoD presented a proposal to adjust military compensation that was incorporated in the President's budget for FY2000. We conclude the briefing with a discussion of this option and its estimated effects on retention, cost, and productivity incentive effects.

## ***We Evaluated the Effects of Several Options for the Army Enlisted Force***

<b>Modify retirement</b>	<b>Return to pre-1986 retirement benefit schedule</b>
	<b>Offer Thrift Savings Plan (FERS version)</b>
<b>Pay increase</b>	<b>Across-the-board raises</b>
	<b>Higher special pays</b>
	<b>Targeted pay raises</b>

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This chart lists the options we evaluated with our models.

Under the first option, members currently covered by REDUX would instead be covered by "High-3," the system that covers those who entered service between FY81 and July 1986. Our simulation model compares the steady-state implications of this option to those under REDUX for the Army enlisted force.

Under the second option, members covered by REDUX would have the option of participating in a Thrift Savings Plan modeled after the one that covers participants in the Federal Employees Retirement System (FERS).

We also evaluate the effects of alternative pay-raise proposals. First, we consider the implications of a 2.25 percent across-the-board (ATB) pay raise, a raise that we estimate would produce the same overall retention rate as the rollback to High-3. Second, we consider an increase in special pays, specifically a raise in the Selective Reenlistment Bonuses (SRBs) offered to those reenlisting at the end of their first and second enlistment terms. The SRB is computed using a multiplier of 1, the level we estimate would roughly produce the same retention as the rollback to the High-3 option. Finally, we consider a targeted pay raise, that is, higher raises to those in higher grades.

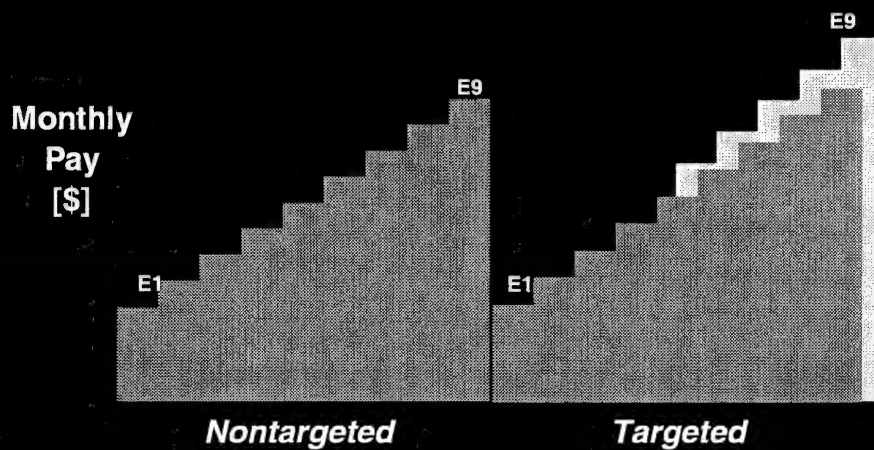
To evaluate these proposals, we use a computer simulation model that predicts for the Army enlisted force the steady-state retention, productivity incentives, and cost implications of the current and alternative compensation systems. For the purposes of this analysis, we measure retention effects in terms of the change in expected man-years per accession under each system. The expected man-years per accession indicates the average number of years of service a typical new recruit will supply to the Army in the steady state.

While we have no direct measure of personnel productivity, we developed an indicator, measured in arbitrary units, that captures the degree to which a given compensation option encourages members to work hard and effectively and provides incentives for

productivity. For the most part, these incentives are embedded in the promotion system, the primary means by which the military rewards better performance. Therefore, to measure productivity incentives, the indicator captures the extent to which the promotion system rewards productivity. Since the units are arbitrary, we let the indicator equal 100 under the current military compensation system. Consequently, a change in the indicator will capture the percentage change in the average productivity incentives of the force under each compensation system relative to the current system. Our cost measure is the sum of basic pay costs and the retirement accrual costs for the steady-state Army enlisted force.



## What Is Targeted Compensation?



*Notional example*

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As mentioned, one of the options we considered is a targeted pay raise. Such a pay raise would give members in E1 to E4 no additional raise beyond the raise needed to keep pace with civilian wage growth; those in E5 to E9 would receive a 2.5 percent raise. The base case where there is no additional targeted pay raise is shown on the left side, while the targeted pay raise case is shown on the right.

## ***Why Targeted Compensation?***

- **Motivates better performance**
- **Motivates high-ability people to stay and seek advancement**
- **Addresses pay gap for senior personnel:**
  - **Research under way finds that high-quality personnel are historically more likely to**
    - **Stay in service through mid-career**
    - **Be promoted to upper ranks**
  - **Pay gap for senior personnel may undermine effectiveness of compensation in achieving these outcomes**

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Why is a targeted or skewed compensation system desirable? First, a system that targets pay toward the senior grades increases the financial returns associated with promotion. Insofar as the promotion system successfully identifies the most-productive and best-performing personnel, a targeted system increases the incentives for members to work hard and effectively and motivates the performers who are the most likely to get promoted to remain in the organization. In other words, a targeted system improves productivity incentives.

Another clear advantage of the targeted pay raise is that it would directly funnel resources to personnel in the senior ranks, the personnel for whom our earlier analysis showed that pay growth relative to the civilian sector has been the weakest.

Research currently underway suggests that historically the military compensation and personnel systems have been highly effective in retaining high-quality personnel to the mid-career point and in identifying the most able personnel and promoting them to the senior ranks. To evaluate the retention and promotion of high-quality personnel, we tracked through FY96 the careers of enlisted personnel who have entered the military in every year since FY78. Although we have not yet examined the data for more recent years, it's clear that an ongoing pay gap for senior personnel could undermine this historical trend. Pay raises targeted to personnel in the mid-career and senior grades would avert this.

## ***Features of the Thrift Savings Plan***

### **Vesting**

***3 years of service***

### **Type of benefit**

***Defined contribution***

- Up to 5% government matching***
- Three investment options***

### **Withdrawal option**

***Transfer account balance to IRA  
(if not eligible for immediate benefit)***

### **Payout begins**

***Age 59-1/2***

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As noted earlier, one option under consideration is to allow individuals covered by REDUX to participate in a Thrift Savings Plan modeled after the one that covers civil service personnel. Under the TSP rules for FERS participants, personnel would be vested in their retirement benefits after three years of service. The TSP would be a defined contribution plan in which members could make contributions to their retirement fund that were matched by DoD according to the matching rate schedule used under FERS. Under that schedule, the government makes an automatic contribution of 1 percent of the individual's basic pay. It then matches \$1 for each \$1 that the individual contributes of basic pay, for the first 3 percent of basic pay contributions made by the individual. For the next 2 percent of basic pay contributions made by the individual, the government matches \$.50 for each \$1 contribution, and for subsequent contributions made by the individual, the government provides no matched contributions.

Members could select among three investment options and would transfer their account balances to an Individual Retirement Account (IRA) if they left service before meeting the eligibility requirements for immediate benefits. Individuals could begin withdrawing retirement benefits from their IRA at age 59 1/2.

## How Do Retirement Options Compare to Current Retirement Structure?

	Simulated percent change in		
	Retention	Productivity incentives	Cost*
<b>Retirement options</b>			
<b>Rollback to pre-1986 retirement structure</b>	4.0	3.9	6.0
<b>REDUX plus Thrift Savings Plan</b>	1.2	4.2	5.2
<b>REDUX + pay options</b>			

\*Basic pay and retirement accrual cost

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This chart summarizes the analytical results from our simulation model for the two retirement options we are considering, moving the High-3 retirement system and offering the Thrift Savings Plan to military members.

Relative to REDUX, we predict that moving to the High-3 retirement system will raise overall retention in the steady state by 4 percent. Retention rises because the High-3 system is a more generous system for those retiring with less than 30 YOS. However, predicted retention does not rise for every YOS group; it actually declines for those with more than 20 YOS, because retirement benefits increase more slowly under High-3 than under REDUX in this YOS range (see the backup chart). We also find that the more generous benefits under High-3 would result in higher predicted personnel costs. We estimate that the sum of basic pay and retirement accrual costs would rise by 6 percent for the Army enlisted force relative to REDUX.

We find that offering a TSP option to those covered by REDUX would raise predicted steady-state retention (here defined as man-years per accession) only slightly, by 1.2 percent. The estimated retention effect is small because the expected value of the benefit is relatively small for the typical enlistee who leaves service, an individual who is young and has many years before he or she will reach the withdrawal age of 59 1/2. Although TSP benefits are portable in the sense that individuals who leave service will continue to earn a rate of return on their fund until the withdrawal age, these returns will be heavily discounted at the individual's personal discount rate. We conservatively assume a personal discount rate of 10 percent, a rate that is far below the 20 percent rate recently estimated for enlisted personnel (Warner and Pleeter, 1995). We would have predicted an even smaller retention effect using the higher rate. Furthermore, because the typical enlistee is young, he or she has a relatively low probability of contributing to the TSP, and even among those who do contribute, he or she has a relatively low average contribution rate. Put differently, based on the experience of those covered by

FERS who are similar in age, we estimate that the typical Army enlisted member would contribute a small fraction of his or her basic pay to the TSP.

Although the retention effect is slight, a dollar contributed by DoD today is also a dollar of cost today. Consequently, the estimated personnel cost of the program rises by over 5 percent, despite the modest retention effect. This cost estimate does not include any cost to DoD of replacing the lost tax revenue resulting from members contributing pre-tax dollars to their TSP funds.

The estimated effect on productivity incentives is also sizable. The reason is that the matching DoD contributions operate as a targeted pay raise, being higher for those in higher grades. Those in higher grades will tend to receive a higher matching contribution from DoD because they earn more, and those who earn more tend to contribute a higher fraction of their pay to the Thrift Savings Plan (Federal Retirement Thrift Investment Board, 1996). Consequently, the DoD contributions operate to increase the rewards associated with promotion, thereby increasing productivity incentives.

Therefore, when effectiveness is measured in terms of productivity incentives, the TSP option is the more cost-effective option; it costs less and produces greater rewards to promotion. But when effectiveness is measured in terms of retention, the High-3 is the more cost-effective option. However, we have yet to discuss the different pay raise options. We begin to show the results of our analysis of these options on the next chart.

## What If Service Members Received an Across-the-Board Raise?

	Simulated percent change in		
	<u>Retention</u>	<u>Productivity incentives</u>	<u>Cost*</u>
<b>Retirement options</b>			
<i>Rollback to pre-1986 retirement structure</i>	4.0	3.9	6.0
<i>Post -1986 retirement structure plus Thrift Savings Plan</i>	1.2	4.2	5.2
<b>REDUX + pay options</b>			
<i>Across the board (2.25%)</i>	4.2	5.7	4.4

\*Basic pay and retirement accrual cost

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Each of the pay options we analyzed has REDUX as the retirement system and would produce, by design, the same overall retention effect as the rollback to High-3 option. That is, to facilitate a comparison between the cost and productivity incentive effects of the pay options and the rollback option, we examined pay increases that would produce a roughly 4 percent increase in expected man-years per accession.

We find that a 2.25 percent across-the-board pay raise would roughly generate the same estimated retention effect as a rollback to High-3. In addition, we find that such a pay raise would increase estimated costs by 4.4 percent, an increase that is less than the 6 percent increase in costs that we found under the rollback option.

Therefore, if the policy choice were between rolling the retirement system back to High-3 or offering REDUX plus an additional 2.25 percent across-the-board pay increase, the pay increase would be the more cost-effective option. The reason is that the typical service member, who is relatively young, heavily discounts future benefits. Therefore, it costs less to improve the retention of the service member if the improvement is achieved through a pay increase rather than through an increase in retirement benefits.

## Targeted Pay Raise Is the Most Cost-Effective Option Overall

	Simulated percent change in		
	<u>Retention</u>	<u>Productivity incentives</u>	<u>Cost*</u>
<b>Retirement options</b>			
<i>Rollback to pre-1986 retirement structure</i>	4.0	3.9	6.0
<i>Post -1986 retirement structure plus Thrift Savings Plan</i>	1.2	4.2	5.2
<b>REDUX + pay options</b>			
<i>Across the board (2.25%)</i>	4.2	5.7	4.4
<i>Reenlistment bonus</i>	3.4	3.6	1.7
<i>Targeted 2.5% pay raise**</i>	4.0	6.9	3.8

\*Basic pay and retirement accrual cost

\*\*Targeted on E5-E9

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However, the across-the-board pay raise is not the most cost-effective option.

Increasing reenlistment bonuses is an even more cost-effective means of attaining a roughly 4 percent increase in steady-state retention. We estimate that personnel costs would rise by only 1.7 percent under this option, an increase that is significantly less than the cost increase under the other options. Although offering reenlistment bonuses is clearly a highly cost-effective policy, it also has a disadvantage that is not indicated in the table nor incorporated in the simulation model; to the extent that bonuses can be varied frequently, or even eliminated in the future, they add more uncertainty to a member's future compensation profile. This added uncertainty can adversely affect risk-averse personnel, potentially reducing their retention and productivity.

We find that the targeted pay raise would also cost less than a rollback to High-3 (a 3.8 percent rather than 6.0 percent cost increase) and, like the other pay option, would produce the same 4 percent retention effect. However, unlike the other options under consideration, the targeted pay raise is predicted to improve significantly the productivity incentives embedded in the military's compensation system. We estimate an increase of 6.9 percent in our productivity indicator under this option. In contrast, the increase is only 3.9 percent under the rollback option. Therefore, the targeted pay raise is the more cost-effective option, when effectiveness is measured in terms of productivity incentives. The reason for the large estimated increase in the productivity measure is that a pay raise targeted toward the more senior grades will make the military compensation more skewed. This advantage, together with the retention and cost results, suggests that the targeted pay raise is the most promising option of those considered here.

## Higher Targeted Pay Raise Restores Wealth, Increases Retention

	Simulated percent change in		
	<u>Retention</u>	<u>Productivity incentives</u>	<u>Cost*</u>
<b>Retirement options</b>			
Rollback to pre-1986 retirement structure	4.0	3.9	6.0
Post -1986 retirement structure plus Thrift Savings Plan	1.2	4.2	5.2
<b>REDUX + pay options</b>			
Across the board (2.25%)	4.2	5.7	4.4
Reenlistment bonus	3.4	3.6	1.7
Targeted 2.5% pay raise**	4.0	6.9	3.8
Targeted 4% pay raise**	6.5	11.4	6.1

\*Basic pay and retirement accrual cost  
 \*\*Targeted on E5-E9

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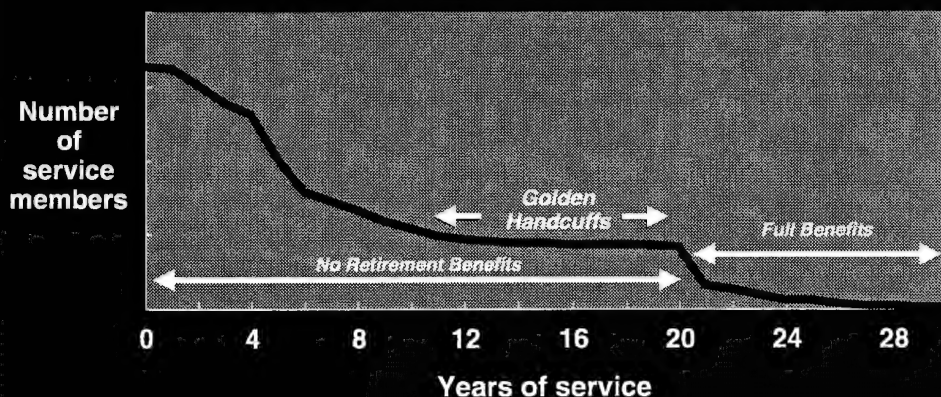
The previous chart showed that a 2.5 percent targeted pay raise is required to bring overall retention under REDUX up to the level produced by returning to the High-3 system. However, for people who reach eligibility for retirement, meaning they have reached 20 YOS, such a pay raise would not hold their military wealth constant. That is, the 2.5 percent pay raise is insufficient to offset the decrement in their retired pay wealth due to being covered by REDUX rather than High-3, so their total military wealth is less. For wealth to be held constant, the targeted pay raise under REDUX would have to be 4.0 percent.

Notice that a 4.0 targeted pay raise would increase overall retention more than a return to High-3, by 6.5 percent instead of 4 percent. We estimate that the cost effect of a 4 percent targeted pay raise will be the same as that of reverting to High-3. That is, the cost advantage of a targeted pay raise relative to returning to High-3 disappears if the targeted pay raise is constructed to maintain wealth under the two retirement systems for those who retire. However, there is still a clear advantage of a targeted 4 percent pay raise over a return to High-3. We estimate the average productivity indicator to be substantially higher under a targeted pay raise relative to a return to High-3. The reason is that the 4 percent targeted pay results in a system that rewards promotions more and provides stronger performance incentives.



## Current Compensation Structure Limits Force Management Flexibility

*Retirement benefits induce people to stay after 10 years of service, leave at 20*



*Notional example*

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None of the options under consideration, including the targeted pay raise, would address the limited flexibility of the current military compensation system.

The current system creates what some have called “golden handcuffs.” Because of the generosity of military retirement benefits and the vesting of benefits that are received immediately at YOS 20, members who have between 10 and 19 years of service face a big financial cost if they leave before YOS 20. The services recognize this cost and tend to avoid separating personnel, even when other factors, such as poor productivity, changes in requirements, or the need to create more promotion opportunities for junior personnel, would make it desirable to do so.

Force management flexibility is also limited by the fact that the pay table and retirement system--the two largest components of the system in terms of cost--are the same for all occupations and services. This uniformity does not easily accommodate the vast diversity of skill requirements across services and occupational areas. Many military jobs require youth and vigor where a shorter than 20-year career might be desirable. Similarly, other jobs have long training periods where experience dominates youthfulness as a key to success, and where a longer than 20-year career might make more sense. Because of the “one-size-fits-all” nature of the pay table and retirement system, the current compensation system generates the same general grade-YOS profile for all services and occupational areas, despite potential differences in the desired profiles and career lengths across areas.

None of the options we have examined so far completely addresses the force management flexibility issue. Because the primary source of the “golden handcuffs” problem--the 20-year retirement system--is still the cornerstone of each option, none of

them, including the targeted pay raise, would by itself provide mid-career personnel with an incentive to cut short their career and leave before YOS 20. In terms of addressing the "one-size-fits-all" issue, only the selective reenlistment bonus option offers the potential to generate longer careers by inducing more individuals to reenlist. The bonus option also offers some, though limited, advantage in terms of inducing personnel in youth and vigor occupations to shorten their careers. If a bonus has been applied to increase retention for a term (or period of obligation), not renewing the bonus for the next term reduces the incentive to continue. However, if the service member has reached mid-career (10-20 YOS), the draw of retirement benefits might more than offset the disincentive from losing the bonus.

## *Elements of Best Policy*

**Pay raises targeted  
to higher grade  
personnel**

*Addresses pay gap for senior personnel  
Improves productivity incentives*

**Special pays**

*Enhances retention in critical areas*

**Separation pay**

*Breaks golden handcuffs  
Facilitates variable length careers*

**Recruiting resources**

*Addresses recent shortfalls*

**Thrift Savings Plan  
with no government  
contribution**

*Allows tax-sheltered savings for  
retirement*

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Therefore, to address the long-run force management flexibility limitations associated with the current system, the targeted pay raise—our best option in terms of retention, productivity incentives, and cost—would need to be supplemented with a well-funded system of separation pays like the VSI/SSB program used during the drawdown of the early 1990s. Separation pay would address the so-called “golden handcuffs” problem if the pays were targeted toward those in their mid-career. It would facilitate more variable careers across occupational areas and services as well. Those in occupational areas where a shorter than 20-year career was desired could be offered the separation pay early in their career. Those in occupational areas where a longer than 20-year career was desired could be offered the pay later on.

In addition to separation pay, the best option under consideration would also include a pay increase targeted toward more senior, higher-grade personnel. A 2.5 percent targeted pay raise option produces roughly the same retention effect as the rollback to High-3 option, but costs less, provides stronger productivity incentives, and concentrates pay increases in the senior ranks where pay growth relative to the private sector has been slowest. A larger targeted pay raise of 4.0 percent would hold military wealth constant for those who retire under REDUX relative to High-3, would cost about the same, but would improve retention and productivity more and would also focus the pay raise in the senior ranks.

In addition, we recommend that more funds for Selective Reenlistment Bonuses and special pays be considered in order to address retention shortfalls in certain specialties. Holding end strength constant, we found that bonuses and special pays are not as effective in raising productivity and improving pay comparability as targeted pay raises;

thus, we believe that they should be combined with, rather than replace, the targeted pay raise option. The specific request for funds would be based on input from the services regarding their more serious current shortfalls relative to their manning requirements—shortfalls not being closed by today's allocated amount for bonuses and special pays.

The inclusion of additional recruiting resources addresses the ongoing recruiting problems now facing the services. The vast majority of potential recruits give little or no weight to pay raises that will occur late in their military careers or perhaps even beyond the first term. Furthermore, pay raises are not the most cost-effective recruiting policy because they are paid to low-quality recruits and to high-quality recruits who would have entered the military without them—not just to new high-quality recruits. Therefore, more cost-effective recruiting policies should supplement the targeted pay raise option, such as the recent increases in recruiters and advertising budgets. Other policies include increasing the Montgomery GI Bill benefits and the college fund benefits and expanding other policies that target the enlistment of college-bound high-quality youth.

Finally, we recommend that additional consideration be given to the option of offering a TSP but without DoD matching contributions. Such an option would provide service members with a convenient means of tax-sheltering their current income as they save for retirement. However, we do not think matching contributions repay in retention and productivity incentives what they cost. This recommendation is tentative; many service members may not want to save and hence would not benefit by the TSP option. Or, they might be able to save using a Roth IRA or their spouse's retirement program and therefore do not need a TSP option. The cost of replacing lost tax revenue resulting from members contributing pre-tax dollars to their TSP funds, a cost which DoD presumably would have to bear, is also a consideration.

This concludes the presentation of the analysis we completed in the Autumn of 1998 for the Office of the Secretary of Defense. In late December 1998, the Secretary of Defense and the Chairman of the Joint Chiefs of Staff offered a proposal to change military compensation. This proposal was incorporated in the President's budget for FY2000. The final part of the briefing, added after the original briefing was completed, summarizes the main components of the proposal and discusses our evaluation of it using our model.

## ***Elements of DoD Triad Proposal for FY00***

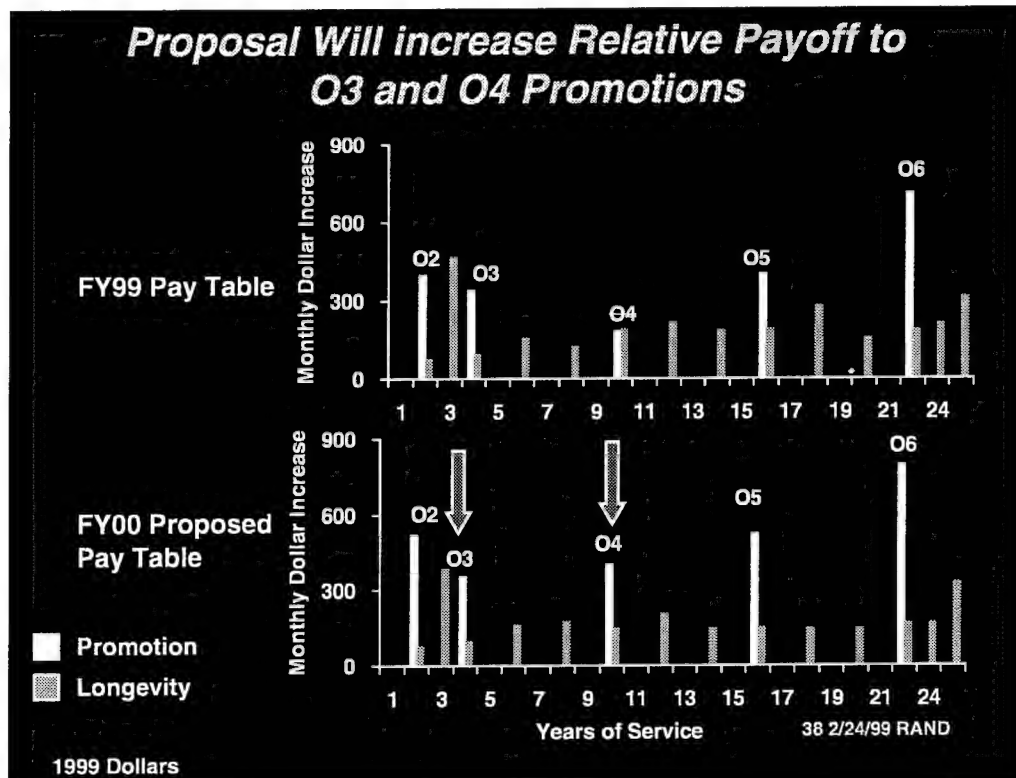
<b>Pay raise</b>	<b><i>4.4 percent across-the-board</i></b>
<b>Pay table reform</b>	<b><i>Higher raises targeted toward mid-grade personnel</i></b>
<b>Retirement</b>	<b><i>Replace 50% of basic pay if retire at YOS 20 COLA follows FERS formula</i></b>

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The DoD compensation proposal is known as the "Triad" proposal because it consists of three major elements for FY2000. The first element would increase pay across-the-board by 4.4 percent.

The second component would give even higher raises to some grade and years of service combinations, with the highest raises going to those in the mid-grades. These raises would alter the military pay table in such a way as to provide generally greater rewards with successive promotion and to provide promotion raises that generally exceed longevity raises. (The specific effects on promotion relative to longevity are illustrated in the next charts.)

The final component would alter the REDUX retirement formula to raise benefits from 40 percent to 50 percent of basic pay for members retiring after 20 years of service. Furthermore, the cost-of-living adjustment (COLA) would follow the formula that adjusts the basic plan retirement benefit of those who participate in FERS. Specifically, the COLA percentage would equal the Consumer Price Index (CPI) for increases in the CPI up to 2 percent, would equal 2 percent for increases in the CPI between 2 and 3 percent, and would equal CPI minus 1 percentage point for CPI increases of 3 percent or more.

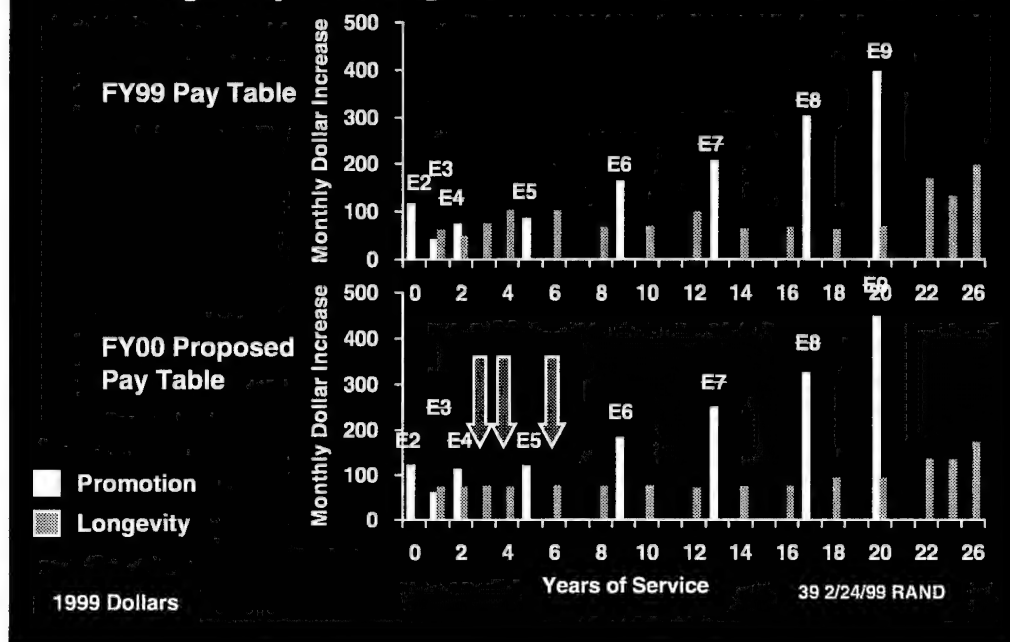


As noted, the DoD proposal would give higher raises to some grade and years of service combinations.

The top graph in this chart shows the increase in monthly pay currently associated with increases in years of service versus promotion at specific points in the FY99 pay table for officers. For example, a promotion to O4 at 10 years of service increases monthly pay by \$182 while an additional year of service for an O3 at YOS 10 is \$189. The bottom graph shows the increase in monthly pay under the DoD Triad proposal.

The DoD proposal will affect the relative payoff to promotion versus longevity, particularly for O3s and O4s. Under the proposed change, the promotion increase at YOS 4 for an O3 would rise by about 4 percent, an increase that will help close the gap between the longevity increase for an O2 at 3 years of service and a promotion increase for an O3 at YOS 4. Even more dramatic would be the change for O4s. No longer would the longevity increase exceed the promotion increase. Under the proposed change, the promotion increase at YOS 10 for an O4 would be \$402 while the longevity increase at YOS 10 for an O3 would be \$149. By increasing the relative reward to promotion over longevity, the rewards for performance are increased.

# **...And Will Increase Rewards to Promotion Relative to Longevity Among 1st and 2nd Term Enlistees**

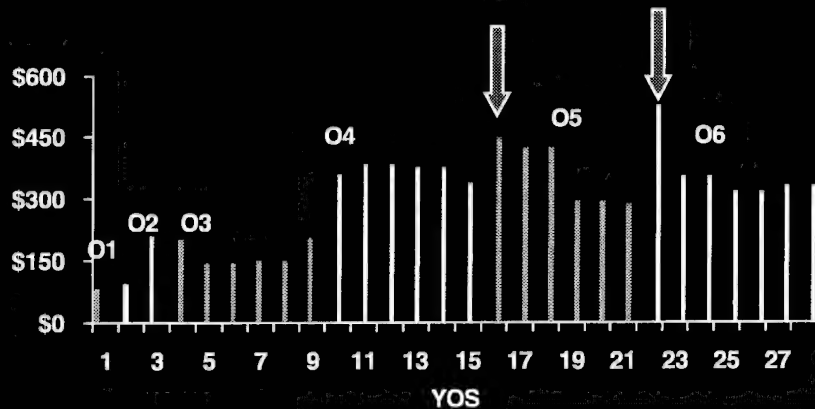


The DoD proposal will also affect the structure of the pay table for enlistees, particularly in the mid-grades. Among the most notable changes, the pay increases associated with promotion to E4 and E5 at YOS 2 and YOS 5, respectively, will increase relative to the longevity increases between those YOS. Consequently, those who are promoted to E5 at YOS 5 will get a larger pay increase than those who fail to get a promotion. Put differently, the proposed changes will reward promotion more over longevity in these grades.

The pay table reform aspect of the DoD proposal stems in part from the recommendations of the 7th Quadrennial Review of Military Compensation (Office of the Assistant Secretary of Defense, 1992). For comparison purposes, we show in the backup charts the relative reward to promotion versus longevity in the current pay table, and indicate the recommended changes that were proposed by the 7th QRMC.

## ***In Officer Corps, the Year-to-Year Pay Change Would Reward Fast-Trackers More***

**Proposed FY00 Monthly Pay - FY99 Monthly Pay**



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1999 Dollars

Another way to highlight the features of the DoD proposal is to examine how pay would change between FY99 and FY00 for individuals in different grades and at different years of service. These changes are shown in this chart for officers. The graph shows that the pay change is greater for those who achieve the grades of O5 and O6 faster. For example, an O5 at YOS 16 would get an increase in monthly basic pay of \$446 while an O5 at 18 YOS would receive a smaller increase of \$422.

By rewarding fast-trackers more in these grades, the proposed pay table reform increases the incentives for performance and motivates the better performers to stay in the military and seek advancement to higher grades. The year-to-year changes for the enlisted force are shown in the backup charts. We see a generally similar pattern of rewarding fast-trackers more for those achieving E5 and E7.



## DoD Triad Increases Retention By About 6 Percent

	Simulated percent change in		
	Retention	Productivity incentives	Cost*

### Triad

4.4% raise + table reform retirement system change	5.5	6.5	6.9
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\*Basic pay and retirement accrual cost

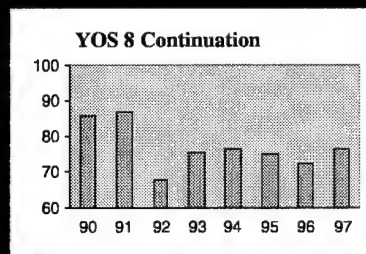
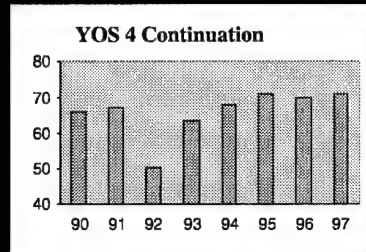
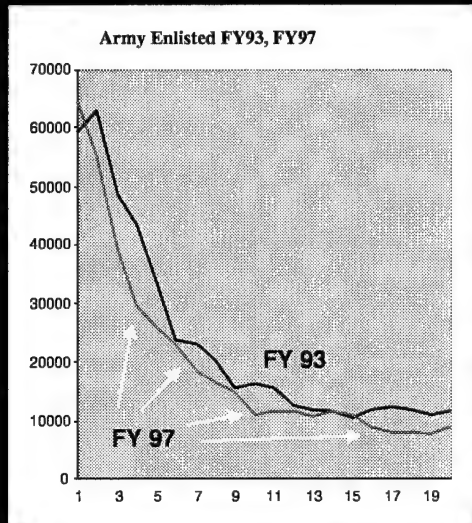
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We used our simulation model to predict the effect of the DoD proposal on our three outcome measures for the steady-state Army enlisted force. We estimate a 5.5 percent increase in expected man-years per accession, our measure of overall retention. The basic pay and retirement accrual costs of the steady-state Army enlisted force rises by about 7 percent. Finally, our measure of productivity incentives increases by about 7 percent. This increase in performance incentives reflects the added rewards associated with promotion that comes from two sources. The first is from the pay-table reform that restructures the pay table to reward promotion in some grades more than longevity. The second is from the proposed improvements to the retirement system that will make retired pay higher in absolute terms for those who achieve promotions to higher grades.

## **APPENDIX**

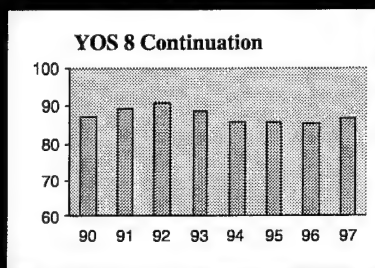
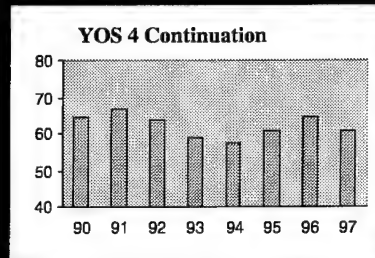
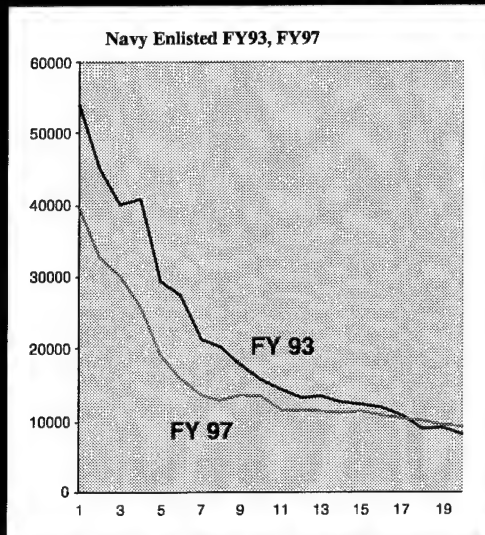
### **BACKUP CHARTS**

## Army Second-Term Retention Rate Has Not Rebounded to Earlier Levels



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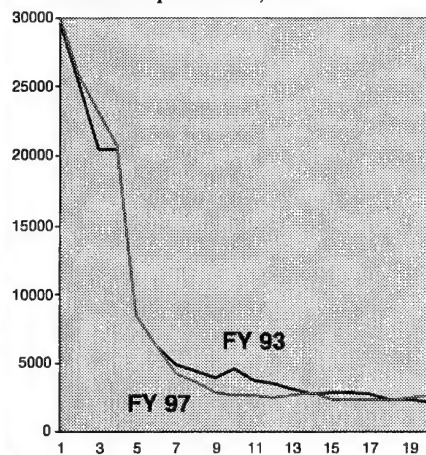
## Navy Increased Its Seniority During Drawdown



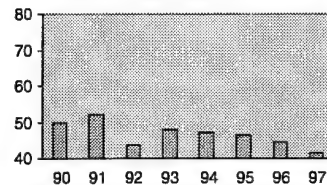
46 2/24/99 RAND

## Marine Corps First Term Retention Rates Have Declined

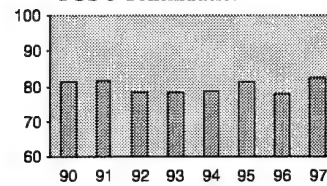
Marine Corps Inv. FY93, FY97



YOS 4 Continuation



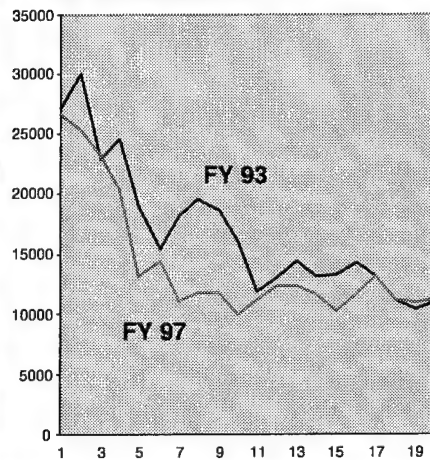
YOS 8 Continuation



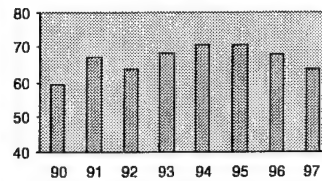
47 2/24/99 RAND

## Like Navy, Air Force Retained Senior Personnel During Drawdown

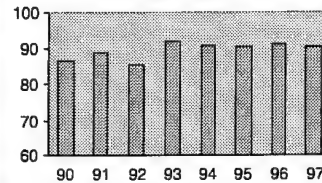
Air Force Enlisted FY93, FY97



YOS 4 Continuation



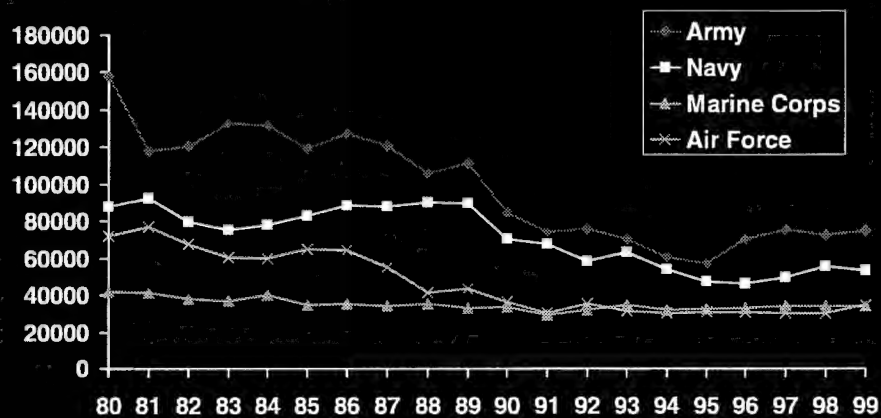
YOS 8 Continuation



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## Accessions Fell During Drawdown Years, Have Been Rising in Army and Navy

Non-Prior Service Active Duty Accessions



Note: FY98 and FY99 figures are accession missions

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## ***Educational Benefits, Advertising, and Recruiters Are the Most Cost-Effective Recruiting Resources***

<b><i>Resource</i></b>	<b><i>Incremental Cost Per Additional Recruit*</i></b>
Educational Benefits	\$ 8,700
Recruiters	\$ 9,100
Advertising	\$ 10,100
Enlistment Bonuses	\$ 23,200
Entry Basic Pay	\$ 43,400

\* 1998 dollars; Asch, Orvis (1994)

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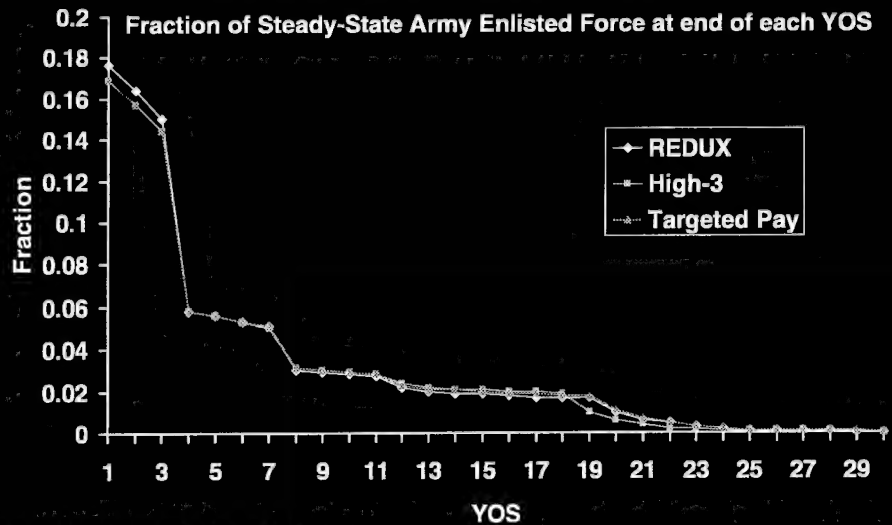


## **Targeted Pay Raise is the Most Cost-Effective Option Overall**

Retirement Option	Retention:			Cost: Basic Pay + Retirement Accrual
	Man-years per Accession	YOS 4	YOS 20	
Rollback to High-3	+4.0%	+3.1%	-10.0%	+6.0%
REDUX+TSP	1.2%	-0.3%	-0.8%	+5.2%
<b>Pay Option</b>				
Across the Board	+4.2%	+4.9%	0.3%	+4.4%
Special Pays	+3.4%	+3.3%	-0.2%	+1.7%
Targeted Pay Raises	+4.0%	+4.1%	+4.7%	+3.8%

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## Comparison of Years of Service Distributions Under Alternative Options

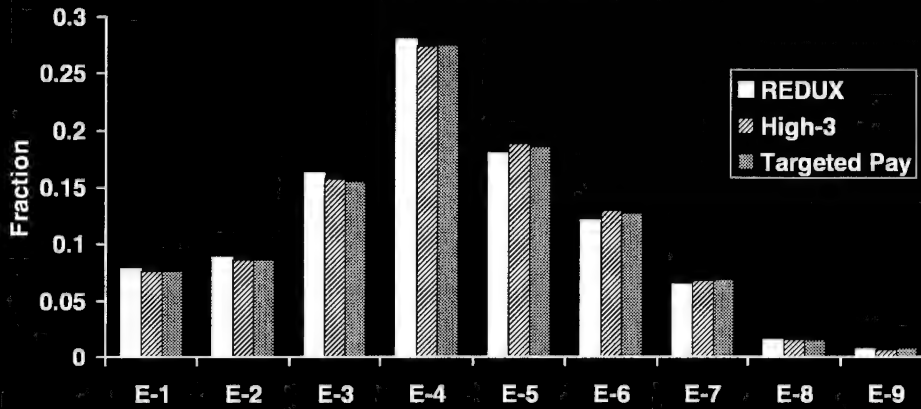


Targeted pay: E1 to E4: 0% raise  
E5 to E9: 2.5% raise

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## Comparison of Grade Distributions Under Alternative Options

Fraction of Steady State Army Enlisted Force at each Grade



Targeted pay: E1 to E4: 0% raise  
E5 to E9: 2.5% raise

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## ***An Even Higher Targeted Pay Raise is Needed to Maintain Military Wealth***

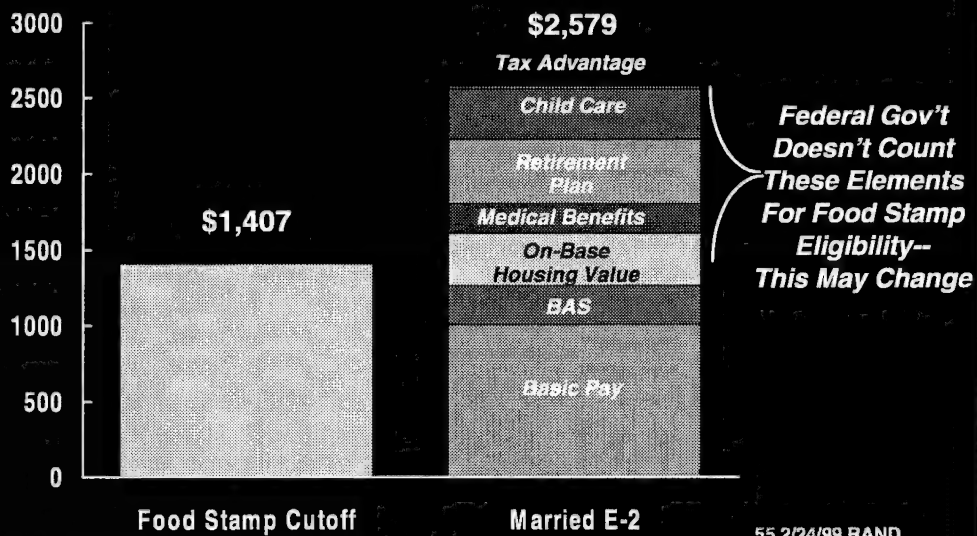
**Discounted Present Value as of YOS 0, if retired at YOS 20 as E-6**

	<b><i>Basic Pay</i></b>	<b><i>Retired Pay</i></b>	<b><i>Total**</i></b>
<b>Rollback to High-3</b>	<b>\$ 159,800</b>	<b>\$ 36,700</b>	<b>\$196,500</b>
<b>Targeted Raise</b>			
2.5%	<b>\$ 163,800</b>	<b>\$29,500</b>	<b>\$193,300</b>
4.0%	<b>\$ 166,200</b>	<b>\$29,900</b>	<b>\$196,100</b>

***\*\*Numbers may not sum due to rounding***

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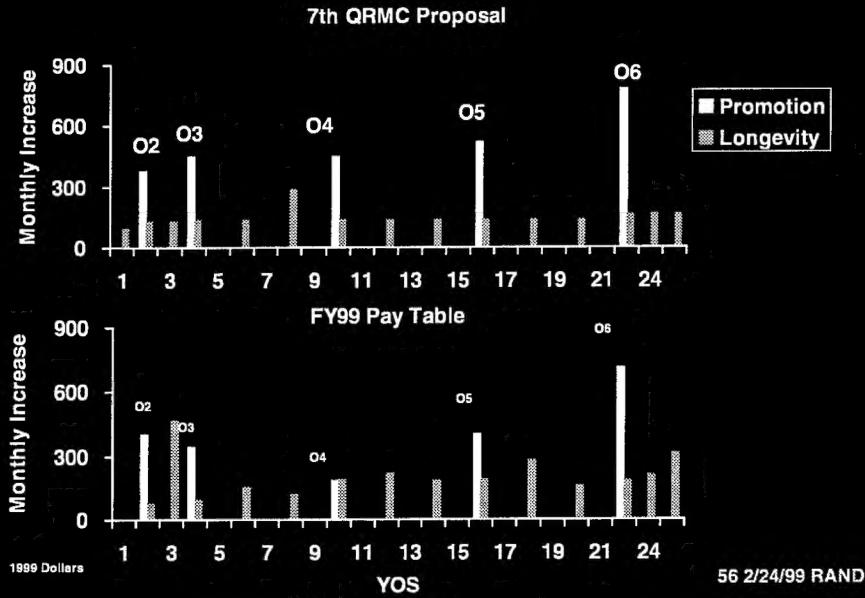
# **If Personnel Are Comparably Paid, Why Are They on Food Stamps?** **Monthly Income**



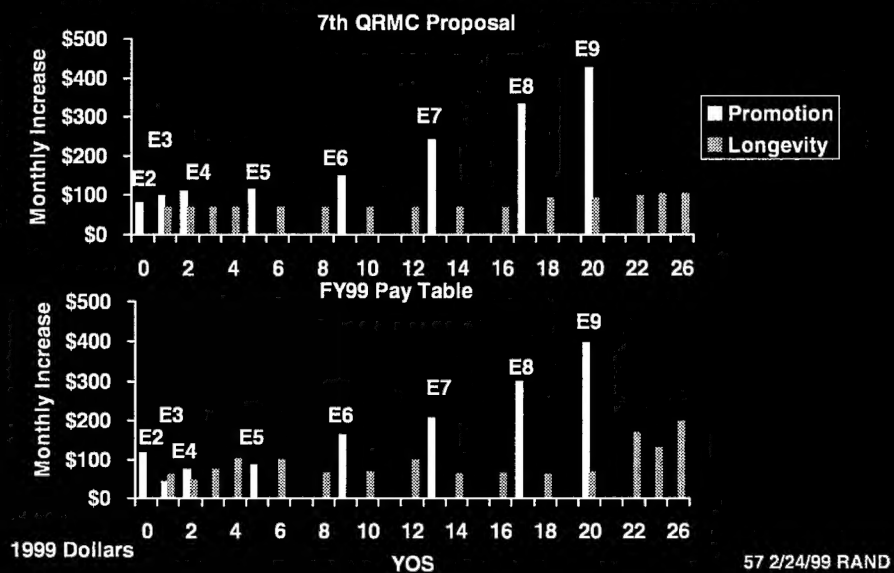
Married, non-working spouse, one child, Patrick AFB

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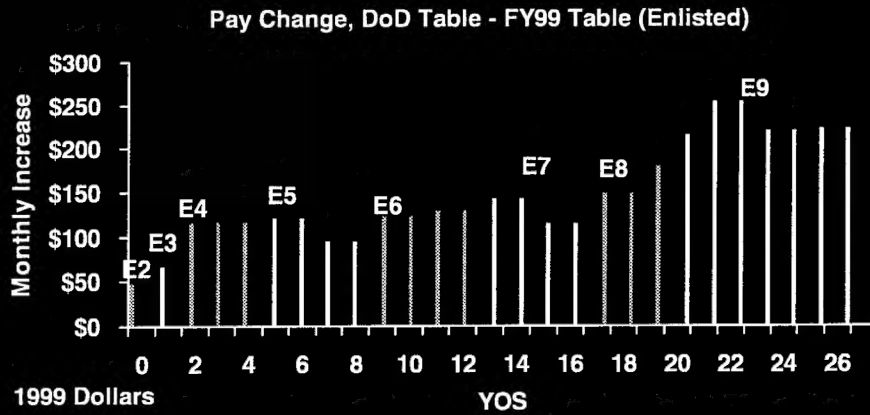
## Comparison of FY99 Pay Table and 7th QRM C Proposal--Officers



## Comparison of FY99 Pay Table and 7th QRMC Proposal --Enlisted



## Year-to-Year Pay Change, FY99 Table to DoD Proposal for Enlistees



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